

1 WHAT IS CLAIMED IS

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1. A liquid crystal display device,  
comprising:

first and second, mutually opposing  
substrates;

10 a liquid crystal layer confined between said  
first and second substrates;

an electrode formed on said first substrate  
so as to create an electric field acting generally  
parallel to a plane of said liquid crystal layer; and

15 a plurality of pixels being defined in said  
liquid crystal layer,

each of said plurality of pixels including  
therein a plurality of domains having respective  
orientations for liquid crystal molecules, such that  
20 said orientation is different between a domain and  
another domain within said plane of said liquid  
crystal layer.

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2. A liquid crystal display device as  
claimed in claim 1, wherein each of said plurality of  
pixels is formed in correspondence to said electrode,

30 said electrode comprising a first electrode and a  
second electrode formed on said first substrate with a  
mutual separation, said plurality of domains including  
a first domain adjacent to said first electrode, a  
second domain adjacent to said second electrode, and a  
35 third domain intervening between said first domain and  
said second domain, said liquid crystal molecules  
aligning, in said first and second domains, in a first

1 direction forming a first angle with respect to a  
direction of said electric field within said plane of  
said liquid crystal layer, said liquid crystal  
molecules aligning, in said third domain, in a second  
5 direction forming a second angle with respect to said  
direction of said electric field within said plane of  
said liquid crystal layer, wherein said second angle  
is larger than said first angle.

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3. A liquid crystal display device as  
claimed in claim 2, wherein said second angle is  
15 larger than about 50° and smaller than about 75°.

20 4. A liquid crystal display device as  
claimed in claim 2, wherein said first and second  
electrodes extend parallel with each other, said first  
and second directions being in a symmetric  
relationship between a pair of mutually neighboring  
25 pixels with respect to an elongating direction of said  
first and second electrodes.

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5. A liquid crystal display device as  
claimed in claim 1, wherein said liquid crystal layer  
has an initial resistivity of about  $1 \times 10^{13} \Omega \text{cm}$  or  
more.

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1           6. A liquid crystal display device as  
claimed in claim 5, wherein said liquid crystal layer  
has a resistivity substantially smaller than said  
initial resistivity.

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10           7. A liquid crystal display device,  
comprising:  
first and second, mutually opposing  
substrates;

15           a liquid crystal layer confined between said  
first and second substrates;  
(an electrode) provided on said first  
substrate so as to create an electric field acting  
generally parallel to a plane of said liquid crystal  
layer; and

20           a spacer member disposed between said first  
and second substrates,  
said liquid crystal layer being formed of a  
liquid crystal having an initial resistivity of about  
 $1 \times 10^{14} \Omega \text{cm}$ ,  
said spacer releasing an impurity to said  
25 liquid crystal layer.

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claimed in claim 7, wherein said spacer carries an  
epoxy resin on a surface thereof.

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9. A liquid crystal display device as

1 claimed in claim 7, wherein said liquid crystal layer  
has an initial resistivity of about  $1 \times 10^{13} \Omega \text{cm}$  or  
more.

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10. A liquid crystal display device as  
claimed in claim 9, wherein said liquid crystal layer  
10 has a resistivity substantially smaller than said  
initial resistivity.

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11. A liquid crystal display device,  
comprising:

first and second, mutually opposing  
substrates;

20 a liquid crystal layer confined between said  
first and second substrates;

an electrode formed on said first substrate  
so as to create an electric field acting generally  
parallel to a plane of said liquid crystal layer; and

25 a plurality of pixels being defined in said  
liquid crystal layer,

each of said plurality of pixels including a  
plurality of domains having respective, mutually  
different electro-optic properties.

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12. A liquid crystal display device as  
35 claimed in claim 11, wherein, in each of said pixels,  
said electrode comprises an interdigital electrode  
carrying a plurality of electrode fingers, said

1 plurality of electrode fingers being formed with an  
interval which changes between an electrode finger  
pair and a different electrode finger pair.

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13. A liquid crystal display device as  
claimed in claim 11, wherein said electrode comprises  
10 an interdigital electrode carrying a plurality of  
electrode fingers, an interval of said electrode  
fingers being changed in each of said pixels.

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14. A liquid crystal display device as  
claimed in claim 11, wherein said electrode comprises  
an interdigital electrode carrying a plurality of  
20 electrode fingers, said plurality of electrode fingers  
having respective, mutually different widths.

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15. A liquid crystal display device as  
claimed in claim 11, wherein said liquid crystal layer  
has, in each of said plurality of pixels, a thickness  
that changes in a direction perpendicular to a  
30 direction of said electric field acting generally  
parallel to said plane of said liquid crystal layer.

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16. A liquid crystal display device as  
claimed in claim 11, wherein said liquid crystal layer

1 comprises liquid crystal molecules such that said  
liquid crystal molecules change an alignment direction  
thereof in a direction generally perpendicular to a  
direction of said electric field acting generally  
5 parallel to said plane of said liquid crystal layer.

10 17. A liquid crystal display device as  
claimed in claim 11, wherein said liquid crystal layer  
comprises liquid crystal molecules such that said  
liquid crystal molecules change a tilt angle thereof  
in a direction generally perpendicular to a direction  
15 of said electric field acting generally parallel to  
said plane of said liquid crystal layer.

20 18. A method of fabricating a liquid  
crystal display device, said liquid crystal display  
device comprising: first and second, mutually opposing  
substrates, a liquid crystal layer confined between  
said first and second substrates, and an electrode  
25 provided on said first substrate so as to create an  
electric field acting generally in a plane of said  
liquid crystal layer, said method comprising the step  
of:  
30 exposing a molecular alignment film formed  
on each of said first and second substrates to a  
polarized ultraviolet radiation.

and  
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19. A method as claimed in claim 18,

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1 wherein said step of exposing said molecular alignment  
film is conducted in a state that a plane of  
polarization of said polarized ultraviolet radiation  
coincides with a desired alignment direction of liquid  
5 crystal molecules constituting said liquid crystal  
layer.

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20. A method as claimed in claim 18,  
wherein said step of exposing said molecular alignment  
film is conducted such that an exposure dose for a  
non-pixel region is increased as compared with an  
15 exposure dose for a pixel region.

20 21. A method of fabricating a liquid  
crystal display device, said liquid crystal display  
device comprising: first and second, mutually opposing  
substrates, a liquid crystal layer confined between  
said first and second substrates, and an electrode  
25 provided on said first substrate so as to create an  
electric field acting generally in a plane of said  
liquid crystal layer, said method comprising the step  
of:

introducing an impurity into said liquid  
30 crystal layer.

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